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REPORT TO SAED OF GESAED-BUHRC TRAINING STUDY.
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A RESEARCH STUDY CONDUCTED BY THE SMALL AIRCRAFT ENGINE DEPARTMENT OF GENERAL ELECTRIC AND BOSTON UNIVERSITY HUMAN RELATIONS CENTER EXPLORED THE PERSONAL CHARACTERISTICS OF 47 T-GROUP PARTICIPANTS. IN PART 1, THE AUTHORS DISCUSS THE PREDICTOR MEASURES THAT WERE FORMED BEFORE TRAINING. AT THE END OF EACH LABORATORY EACH MEMBER AND THE TRAINERS RATED EVERY OTHER MEMBER ON GROUP BEHAVIOR. THE RELATIONSHIPS BETWEEN PREDICTOR SCORES AND BEHAVIOR MEASURES AND THE CHARACTERISTICS OF T-GROUP CONTRIBUTORS ARE DESCRIBED. IN PART 2, THE AUTHORS DISCUSS CHANGES IN ORGANIZATIONAL BEHAVIOR AS MEASURED BY ORGANIZATIONAL BEHAVIOR DESCRIPTION SURVEYS MADE OF EACH PARTICIPANT BY A SUPERIOR, A PEER, AND A SUBORDINATE BEFORE AND 6 TO 8 WEEKS AFTER TRAINING. THE AUTHORS CONCLUDED THAT PARTICIPANTS BECAME MORE EMOTIONALLY EXPRESSIVE AND SOME BECAME MORE OPEN. PERSONS WHOSE BASIC INTERPERSONAL STYLE IS OPEN PROFITED MOST FROM LABORATORY TRAINING, BUT THE DEVELOPMENT OF TRAINING PROGRAMS FOR PEOPLE WHOSE INTERPERSONAL STYLE IS CLOSED WAS RECOMMENDED. A CONCEPTUAL FRAMEWORK FOR RESEARCH AND BRIEF DESCRIPTIONS OF RESEARCH INSTRUMENTS ARE INCLUDED. (AJ)

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REPORT TO SAED OF GESAED-BUHRC TRAINING STUDY

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This is a nontechnical report of the findings of a research study jointly undertaken by the Small Aircraft Engine Department of General Electric and the Boston University Human Relations Center. Although the primary purpose of the study was to increase our understanding of the relationships between certain personal characteristics of individuals and the ways in which they respond to the complexities of T-groups, some of our findings do bear on specific decisions the organization must make with regard to the future of is training activities. These latter findings represent secondary gains from our basic study, and it is hoped they may be useful in decision making regarding organizational improvement efforts in SAED.

Although this report is qualitative and interpretive, our basic statements about relationships we found are supported by statistically significant data from our study. Frequently, these are supplemented by other findings which approach but do not reach significant levels.

The report to follow consists of a summary, followed by sections reporting our findings.

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Summary: What Have We Learned That Can Help In Planning Future Training Activities?

The following are some questions the organization may ask about their laboratory training efforts during the past year:

1. Did the training do any good? Should we continue to expend money, time and energy on this type of training?

2. If we are to continue some form of laboratory training activity, what changes should be made?

3. Have we learned anything which can help us in deciding who should participate in such training and who should not? Are there certain types of people more likely to profit from laboratory training than others?

The following is a summary of our findings bearing upon the above questions.

Question No. 1. Did The Training Do Any Good?

The laboratory did result in changes in participants' work behavior. It is up to the organization to understand the nature of these changes--to weigh the gains and costs--and to decide whether they are for the good. Participants' superiors, subordinates and peers describe the following changes in behavior from before to after laboratory training:

1. Participants in general are seen as becoming more emotionally expressive. They are described as more frequently expressing feelings of anger, frustration, impatience and annoyance in staff and problem solving meetings.

2. Some participants are seen as becoming more open and tolerant of others' ideas and feelings; others are seen as not changing, or as becoming more closed. The pattern of change is not random: people whose basic interpersonal style is to be open are seen by others in the laboratory as learning most; those seen as learning most are also more likely to be seen as changing towards increased openness on the job. (Note: by openness, we mean receptivity to the ideas and feelings of others; a willingness to listen and be influenced. The other meaning of openness is covered by our term, emotional expressiveness.)

Are these changes "good"? A question of organizational values.

The following findings are pertinent to the value of such changes and should be taken into account in deciding the question of whether training which encourages such changes should be continued in the department:

Changes in openness.

1. People who are rated in the laboratory as learning most from the experience are the ones who are subsequently described in the organization as increasing most in openness.

2. The describers in our study place great emphasis on the importance of openness for the effective functioning of their staff and problem solving meetings. They feel that skills in openness and tolerance to new ideas are as important as skills in expressing and working with one's own ideas.

3. The describers see less evidence of openness to new ideas and more evidence of expressing and working with one's own ideas.

Openness, then, is a skill which tends to be valued in the organization. It seems reasonable that the organization would value a form of training which tends to increase openness in some predictable way. Our predictor findings offer hope of being able to select participants who are most likely to change toward greater openness. More will be said about this last point in subsequent sections.

Changes in expression of feelings.

The role of "expressing feelings" in staff and problem solving meetings is considerably less clearcut and is critical to any decision about continuing laboratory training in any form in SAED. The following findings should enter into any decision:

1. Active aggressiveness is a pattern of managerial behavior which tends to be valued both in the T-group and in the organization, whereas non-aggressive interpersonal orientations tend to be associated with feelings of powerlessness and work avoidance in the organization.

2. Although the organization values active aggressiveness, it disvalues the open expression of feelings. Describers almost uniformly state that expression of feelings is among the least important skills for the effective functioning of their meetings. (The negative value of feelings is supported in discussions with participants who, in contrasting the T-group with organizational meetings, talk about public expressions of anger, resentment and annoyance as "not the thing to do.")

3. People who are rated in the laboratory as learning the most from the experience are the ones subsequently described in the organization as increasing in the expression of feelings.

4. People described as becoming more expressive of feelings (disvalued in the organization) are also described as becoming more open and receptive to the ideas of others (valued in the organization).

Staff evaluation of the value of these changes in organizational behavior.

Although the organization must make the final appraisal of the significance of these changes, it might be useful to see what we make of all of this. In the first place, we see any predictable change toward greater openness as unequivocally a good thing. Greater openness should be associated with improved organizational decision making and problem solving. As openness increases, there is greater opportunity for new ideas to get into the system, to be given a hearing, to be experimented with, and to be evaluated rationally. If selection and training of participants can be improved in order to improve the percentage of "hits" as we think it can, then this seems a powerful tool for organizational growth.

Our position on the value of greater emotional expressiveness for the organization is more complex. On the one hand, our picture of an ideal work group is one in which the norm is: It is a good thing to be able to express, understand and work with the feelings of members. The feelings are there anyhow--particularly the negative ones of hostility, competitiveness, frustration, and reactions toward authority which are characteristic of a "tough"-oriented industrial organization. When unrecognized and unexplored, they frequently result in greater competitiveness, frustration, lack of cooperation, and obstructiveness. Exploration of feelings does not eliminate them, but it does make it possible for people to understand one another's actions better and to be able to channel their energies more constructively. But this requires an overt or implicit norm within the work that feelings are all right. As things stand now, there do not appear to be very many work groups in the organization in which such a norm exists. Then what are some of the possible long-range consequences of changes toward greater emotional expressiveness?

1. The change may so violate accepted organizational norms as to be disruptive rather than constructive.

2. Participants may revert to less emotionally expressive interpersonal styles if they find these more adaptive to existing organizational norms.

3. The gradual seeding of the department with more and more T-grou alumni may result in a gradual readjustment of organizational norms with regard to the expression of feelings.

Our own feeling is that, if the organizational wants to pursue the goals of greater openness and greater emotional expressiveness, then the problem of relationship to existing organizational values can be attacked more directly through modifications in the existing training design.

Question No. 2. Have We Learned Anything Which Can Help Us In Deciding Who Should Participate In Such Training And Who Should Not? Are There Certain Types Of People More Likely To Profit From Laboratory Training Than Others?

The findings cited above indicate that we can expect the greatest training payoff from persons who are already open and the least from persons who tend to be closed, non-interpersonally oriented, and actively resistant to authority. These are criteria which can be communicated to others who are in a position to nominate persons as participants in laboratory programs.

Another relevant finding is that younger people are seen as increasing in openness more than older people.

The question of relative trainability bears on the issue of T-group training or other forms of laboratory experience for intact work groups. We would expect greater success in "family" groups characterized by openness (particularly in relationships with the leader) than those characterized by closedness. Another implicatio with regard to training of intact groups is that for most groups there will be some members for whom we would predict little or no change. The training goal for such groups should be clear. It is not to change the behavior or interpersonal style of closed members It is to help the rest of the group learn how to work most effectively with persons who are closed, non-interpersonally oriented, and actively resistant to authority.

Question No. 3. If We Are To Continue Some Form Of Laboratory Training Activity, What Changes Should Be Made?

Two research findings bear on the question of training modification One is the finding referred to above, that open, receptive, experimental people profit most from the kind of training we currently offer. The first finding indicates the need for further experimentation with different forms of training for different types of people. We have had least success with people who are basically closed and with people whose reactions against authority are so powerful that they tend to fight and resist the whole laboratory experience. None of our data sheds any light on the question of what forms of training would be more effective for these types of people. There is, however, a growing body of work

on different training approaches for different types of people. For some, greater structure, more gradualness, and more opportunity for dependency on the trainers may be most appropriate; for others, non-group learning may be most appropriate. On the basis of our data, we cannot specify training directions but we can suggest experimenting with training designs to better suit the personal make-up of participants.

The second finding is that change toward greater expressiveness of negative feelings is not consonant with existing organizational values with regard to effective interpersonal and group functioning. This suggests that more work should be done to help bridge the gap from laboratory norms to work group norms. If the organization wants to support T-group norms of greater openness, freer emotional expressiveness and exploration, greater distribution of power within groups--as productive for organizational groups as well, then training modifications seem needed.

Let us assume that it is truly desired to increase openness and emotional expressiveness in the work life of the organization, and that it is also true that these changes run in some respects counter to the organization's dominant value system. Then the training as we have conducted it, a series of one week laboratories in an isolated setting, has almost completely neglected one of the most significant training problems: helping participants to learn to use increased openness to their own and others' feelings in their jobs. We have subjected participants to what are essentially "unfreezing" experiences, but have left them on their own so far as integrating what they have learned in the protected and supportive world of the laboratory with the demands of a competitive and high pressure world of work. When the massive differences between the learning social system and that where application is supposed to take place are fully appreciated, it is at least mildly surprising that we found the modest changes we did in organizational behavior.

While experimentation with different methods of training for different individuals is clearly called for by our findings of differential response to training, we are convinced that the greatest barrier to the utilization of training is the nature of the organization itself: the competitiveness which is always present in hierarchical organizations, accentuated by the many personal and professional insecurities involved in the up-and-down nature of doing business with the government. That some participants have managed to carry their learning into the organization in spite of these pressures seems clear from the research. Whether the behavior changes can survive unsupported by further help is an open question, and one about which we tend to be pessimistic.

In the last few years, a number of approaches to organizational change through training have been successfully worked with by a variety of practitioners and organizations. Many of them begin with residential "unfreezing" experiences in a laboratory setting working either with intact work groups (the "family group" approach) or with groups of relative strangers organizationally. There is experience to indicate that this training becomes more effective as it comes closer to meeting the following criteria:

1. The training begins at the top and works down, rather than from the middle out or from the bottom up.

2. People who work together have at some time in the training an opportunity to explore together the implications of their learning for their own work relationships.

3. Training and/or consultation continues over a period of time on the job, so the participants can receive help in integrating learning with work.

We suspect, then, that the most promising approach to improving this training in SAED lies in the extension of the training to actively helping people to deal with their work problems, rather than in modifications of the training itself. This is, of course, much more difficult to do.

Even the most simple training interventions into the daily work life of the organization are infinitely more disruptive (though quite possibly more productive) than the most radical and explosive of residential laboratories. This is not to suggest the abandonment of residential laboratories as initial unfreezing experiences, nor is it to underrate the need for improvement of laboratory designs or the possibilities for experimentation with new training models. What we are saying is that in our judgment, the course of action most likely to result in an increase in the interpersonal skill and openness in the daily life of managers is to carry the training from the laboratory into the organization, rather than providing isolated and terminal T-group experiences in a residential setting.

Part I

Prediction of T-Group Behavior

Summary: In this section, we explore some personal, interpersonal, and organizational characteristics of the T-group participants. The section is addressed to the following research question:

Have we found relationships between these characteristics of people and T-group behavior which would help us predict:

---Who are likely to become actively involved and interested in the T-group, and who are likely to be uninvolved and uninterested?

---Who are likely to be assertively aggressive in the T-group, and who are likely to be avoiding conflict?

---Who are likely to learn the most from T-groups, and who are likely to learn the least?

I. Research Methodology

Predictor Measures. Prior to laboratory training, participants were subjected to a battery of tests yielding measures of cognitive style and complexity, group and interpersonal orientation, and analytical orientation to organizational problems. These test measures were then subjected to a factor analysis which yielded fourteen predictor factors--each identifying a pattern of cognitive and behavioral characteristics.

These predictor factors were supplemented by additional predictor measures drawn from our describer study in which each participant, before the laboratory, described himself and was described by organizational colleagues in terms of his orientation to work and his orientation to people.

Measures of T-Group Behavior. At the end of each laboratory, each member and the trainers rated every other member of the T-group on ten dimensions of T-group behavior--for example, how hard he tried to influence others, how warm and supportive he was of others, how much he seemed to have learned from feedback. These scores were subjected to a factor analysis yielding four measures of T-group interaction.

We then studied the relationships between the predictor scores and the measures of T-group behavior. The results of these analyses are presented in Section II, and some of the implications of these findings are discussed in Section III.

II. Research Findings

A. Overall Contribution to T-Group Progress. In this section, we describe the cognitive and behavioral characteristics of those persons rated as having contributed or not contributed significantly to T-group progress.

High contributors are those who were rated as contributing significantly to the T-group's progress, as making more understandable the events and processes within the group, and as seeming interested and involved in the group's activities.

Low contributors are those who were seen as uninvolved and uninterested in the group's activities, as contributing little to understanding in the group, and as contributing little to the group's progress.

The research question we were asking was: Are there certain patterns of personal characteristics which provide better bases for effective T-group interaction than others? The following chart summarizes our research findings with regard to this question.

Characteristics Of Members Rated As High T-Group Contributors	Characteristics Of Members Rated As Low T-Group Contributors
React to organizational frustration by actively fighting personal authority.	React to organizational frustration by passively blaming the impersonal system.
Are sensitive to the power and position of people. (Are insensitive to their genuineness and openness.)	Are sensitive to the genuineness and openness of people. (Are insensitive to their power and position.)
Are seen by superiors as high in initiating structure for others.	Are seen by superiors as low in initiating structure for others.
See their superiors as high in initiating structure.	See their superiors as low in initiating structure.

The general pattern of personal characteristics associated with being a contributing T-group member is:

The general dimensions of power and authority are important to them. (In terms of status, they are concerned with: Who is high status and who is low status, who has much authority and who has little, who is influential and who is uninfluential. In terms of power they are sensitive to who uses it and who does not.) The concern with status and power is reflected in their organizational behavior: they enjoy arguments and fighting with leaders; and they are seen by their superiors as task-oriented--that is, "needling" people toward greater effort, encouraging people to work harder, asking people to make sacrifices, and deciding in detail the work of others.

The general pattern of personal characteristics associated with being a low T-group contributor is:

They are characterized by low aggressiveness and high concern with the trustworthiness and benevolence of others. When frustrated in their work, rather than dealing directly and actively with the leader, they tend to blame their problems on organizational red tape or inflexibility. The tendency is to withdraw in the face of frustration. In contrast to the high contributor's concern with the locus of power in interpersonal situations, the low contributors are more concerned with: who are genuine, sincere, kind? Who are artificial, insincere, and unkind? Their low aggressiveness is reflected in the descriptions of their supervisors who see them as not highly task-oriented--that is, letting persons under them do their work as they see best, waiting for persons in their units to push new ideas, and generally failing to push others to work harder

In summary, "good" T-group members are those people whose non-T-group interpersonal style is active aggressiveness, and "bad" T-group members are those whose non-T-group interpersonal style is characterized by passivity.

B. Assertive Aggressiveness versus Passive Conflict Avoidance. In this section, we compare the cognitive and behavioral characteristics of persons described in the T-group as aggressively assertive with the characteristics of those described as passively avoiding conflict.

Aggressive Asserters are those rated by members and trainers as willing to disagree with and criticize others' ideas and actions as working hard to influence others toward their points of view, as not being willing to go along with what others want to do, and as not being warm and supportive toward other group members.

Those seen as high on Conflict Avoidance were rated by members and trainers as willing to go along with others, as being warm and supportive of others, as not being willing to disagree with or criticize others' ideas and actions, and as not working hard to influence others.

Characteristics Of Members Rated As Aggressive Asserters	Characteristics Of Members Rated As Conflict Avoiders
See self as high in initiating structure.	See self as low in initiating structure.
High in expressing feelings.	Not high in expressing feelings.
Inconsiderate of others.	Considerate of others.
React to organizational frustration by actively fighting personal authority.	React to organizational frustration by passively blaming impersonal system.
Are sensitive to the power and position (insensitive to the genuineness and openness) of others.	Sensitive to the genuineness and openness of people (insensitive to their power and position)
Do not see organizational problems as stemming from their own and others inhibited action.	React to organizational frustrations with feelings of powerlessness.

The personal and organizational style for aggressive asserters is one of high power emotional attack. In perceiving others, they respond to power, status and are aware of others' attempts to influence; they are relatively insensitive to others' trustworthiness and kindness.

They see themselves and others as actively taking initiative to cop with organizational problems and this initiative takes the form of actively fighting with personal authority rather than blaming and succumbing to the impersonal authority of the organization. They see themselves as high on initiating structure, giving orders, directions and suggestions and yet what tends to come across to the people with whom they work is often: inconsiderateness and pure emotional expressiveness--anger and impatience (in an organization in which open expression of negative feelings is highly disvalued).

The personal and organizational pattern for the T-group conflict avoiders is one of passivity and a sense of inability to take action in the face of a troublesome organizational system. They see themselves as not being very demanding of others in terms of orders, directions, and suggestions and this is associated with their being seen as considerate of others. The passivity and sense of powerlessness reflects itself in their seeing themselves as not doing enough to cope with organizational problems and in their dealing with organizational frustrations by blaming the complexity and inflexibility of the system rather than dealing face to face with the leadership structure which represents this system. Where the more aggressive members tend to see others in terms of influenc and power, the conflict avoiders tend to perceive others according to their trustworthiness and benevolence.

C. Learning and Change. In this section, we compare the cognitive and behavioral characteristics of persons described as having learned most in the T-group with the characteristics of those described as having learned least.

High Learners are those rated by members and trainers as havin improved in effectiveness as group members and as having learned from the reactions of others to their ideas and actions.

Low Learners are those rated as least improved in effectivenes and as having learned least from the feedback of others.

The research question we were asking was: Are there certain patterns of personal characteristics which provide better bases for learning in the T-group than others? The following chart summarize our research findings with regard to this question.

Characteristics Of High Learners	Characteristics Of Low Learners
Considerate of others.	Inconsiderate of others.
Open to the ideas and feelings of others.	Closed to the ideas and feelings of others.
Low in expressing feelings.	High in expressing feelings.
Tend not to blame the interpersonal inadequacies of others for their organizational frustrations.	Tend to blame the interpersonal inadequacies of others for their organizational frustrations.
Tend not to blame organizational complexity and rigidity for their organizational frustrations.	Tend to blame organizational complexity and rigidity for their organizational frustrations.

Those who are rated as open to new ideas and feelings in the T-group are those who have demonstrated openness to ideas and feelings in the organization. They are described by organizational colleagues as open to the ideas of others, tolerant and accepting of others, listening with understanding to what others say. This openness is also reflected in their diagnostic approach to organizational problems--that is, in not blaming the inadequacies of others or of the organization.

Those who are rated as low learners in the T-group are seen by organizational colleagues as closed to new ideas and feelings. They are described as refusing to explain their actions, as acting without consulting persons under them, as rejecting suggestions for change, and as insisting that things be done their way. This closedness is also reflected in their diagnoses of organizational problems--that is, in their tendency to look for causes of organizational problems outside themselves and to find them in the interpersonal inadequacies of others and in the inflexibility of the organization.

Part II Changes In Organizational Behavior

I Research Methodology

Before and 6-8 weeks after training, each of the 47 Lab I and II participants was described by his superior, one peer, and one subordinate. Participant behavior was described using the Organizational Behavior Description Survey (OBDS), which contains twenty descriptions of staff meeting behavior, and which requires the describer to indicate the frequency with which the participant engages in each of these actions. Data were also obtained for 10 managers who did not participate and who thus served as control

Each describer was also asked to indicate how important he felt each of the OBDS items was for the effective functioning of meetings involving him and the person being described. Thus the OBDS served both as a descriptive measure of the values associated with various types of behavior in the organization.

The 20 OBDS items were subjected to a factor analysis which yielded three clear cut dimensions of staff meeting behavior. The three patterns of staff meeting behavior studied are:

1) the degree to which the participant expressed ideas actively and competently,

2) the degree to which the participant was open, receptive, and tolerant towards the ideas and feelings of others, and

3) the degree to which the participant expressed feelings--particularly aggressive feelings such as anger and impatience.

For each of these three patterns of staff meeting behavior, we studied:

1. the relative frequency with which the patterns are observed in the organizational staff meetings involving the participants,

2. the relative value placed on each pattern for the effectiv functioning of staff meetings,

3. the changes in the patterns attributable to laboratory training,

4. the relationships between changes on these measures and other measures of organizational behavior.

The results of these analyses are presented in the following section.

Research Findings

A. The Relative Frequency and Relative Value of Three Patterns of Staff Meeting Behavior.

Pattern I. "Expressive--ideas"

> The person high on this pattern functions intelligently and actively with ideas. He is described as thinking quickly, showing intelligence, "knowing his stuff". He expresses his ideas clearly and concisely, and gets things done quickly.

Pattern II. "Receptive--ideas and feelings"

> The person high on this pattern is open to and tries to experiment with his own and others' ideas and feelings. He is described as tolerant and accepting of others, trying to listen to and understand and use the ideas and helping others to express their ideas.

Pattern III. "Expressive-feelings"

> The person high on this pattern is described as expressing his own feelings--for example, when he is angry or impatient--and as helping others in the group to express their feelings.

Results:

(1) According to describers, Patterns I and II are equally important for the effective functioning of their meetings--it is as important to be open and receptive to the ideas and feelings of others as it is to be facile in expressing and working with one's own ideas.

(2) According to describers, Pattern III is relatively unimportant for the effective functioning of their meetings. (For example over 70 percent of the describers rated "expressing feelings--anger, impatience" among the three least important functions.)

(3) Although Patterns I and II are equally valued, there is more evidence of Pattern I in staff meetings than of Pattern II. There is more evidence of expression of ideas than of receptivity to ideas.

(4) Pattern III, expressing feelings, is infrequently observed in staff meetings.

Summary. According to describers, the low incidence of emotional expression in staff meetings is of little consequence since such expressions are seen as of little value to effective group functioning. It seems to follow from the data that describers see

the greatest training need to be to increase the incidence of Pattern II in staff meetings--that is, to be more open and receptiv to others' ideas and feelings without increasing the expression of their own feelings.

B. Overall Change in Patterns of Staff Meeting Behavior Following Training.

The laboratory training experience resulted in no overall change in Patterns I and II but did result in an increase in Pattern III. Superiors, peers, and subordinates all tend to describe participants as being more expressive of aggressive feelings following participation in the laboratory.

Implications: A basic assumption of laboratory training is that feelings are as basic to the understanding of group interaction as are ideas, and that group effectiveness can be improved as participants begin to increase patterns II and III, that is, to become both more expressive of feelings and more open to the ideas and feelings of others. It is assumed that as participants become more tolerant and accepting of their own feelings, they will become more comfortable and non-defensive in the face of expression of feelings by others. In the laboratory, we encourage the expression and exploration of feelings.

Additional evidence helps interpret the obtained increase in Pattern III.

(1) Participants who are seen as increasing in Pattern III (expressive--feelings) are also described by working colleagues as increasing in Pattern II (receptive--ideas and feelings). Thus, the tendency to become more open to and expressive of one's own feelings tends to be associated with increased openness to feelings and ideas o others.

(2) There is a trend (not statistically significant, but consistent across all three describer groups) for those rated by trainers and fellow T-group members as having learned the most in the laboratory to be described by thei organizational colleagues as increasing in Pattern III.

There is evidence, then, that for some participants, the laboratory experience has been followed by more emotionally open organizational behavior, even though expression of feelings is a low or negative value in the organization. Furthermore, there is reason to believe that the increase is more constructive than not because it tends to be accompanied by reciprocal increases in receptiveness to ideas and feelings of others, which is positively valued in the organization.

C. Predicting Change in Organizational Behavior

A most interesting finding of our study is that while there was no overall change in Patterns I and II, there are significant relationships between an individual's change on these measures and other variables in our study. This leads us to the conclusion that rather than having no systematic effects on these behavior patterns, the laboratories instead induced different kinds of change in different sorts of people. The relationships between direction of change and other measures seem to fit the principle that people tend to change in directions which fit their preferred styles of relating to others. One might say that they become more of what they already are tending towards.

Let us first consider the relationships between change in Patterns I and II and our psychological and organizational behavior measures. As measures of change in these patterns we used both the OBDS and the Behavior Description Questionnaire developed by Fleishman. The BDQ scores on Initiating Structure are positively correlated with our Pattern I scores, and the score on Consideration are correlated with our Pattern II scores. We consider the two instruments to measure similar kinds of organizational behavior.

Characteristics Of Members Seen As Changing Upwards On Pattern I	Characteristics Of Members Seen As Changing Downward O Pattern I
Describe themselves as actively fighting with authority in the organization.	Tend to blame organizationa red tape and inefficiency rather than people for job problems.
In describing people, they respond to others' emotional expressiveness, rather than to their consideration and responsibility.	In describing others they respond more to responsi-bility and consideration, and less to emotional expressiveness.
On a sentence completion test, they give more active, aggressive, and initiating responses.	On a sentence completion test they give more depend-ent and conflict avoidant responses, and more response suggesting the establishmen of friendships as a way of getting along.
In diagnosing their interpersonal problems in the organization, they tend to reject interpersonal difficulties as causes of the problems.	In diagnosing interpersonal problems, they tend to give a high weight to inter-personal difficulties.

This pattern of predictor measures suggests that the individual who responds to the laboratory experience with increases in Pattern I, active initiating, is one who already, either in actuality or in fantasy, adopts an active, aggressive attitude toward others. The reverse tends to be true of those seen as decreasing in initiating.

What we do not know, of course, is whether these people were seen before training as "too low", "too high", or "just right" on Pattern I. We can say that the changes which took place may be interpreted as further development of interpersonal styles which were revealed by pre-training measures, rather than as reversals of basic style preferences.

Characteristics Of Members Seen As Changing Upward On Pattern II.	Characteristics Of Members Seen As Changing Downward On Pattern II.
Also seen as changing upward on Pattern III.	Seen as changing downward or remaining the same on Pattern III.
Are seen in the laboratory as high on receptivity to feedback and as improving in effectiveness as a member.	Are seen in the laboratory as low in receptivity to feedback and as low on improvement in effectiveness
In describing others, tend to respond to others' trustworthiness and warmth, rather than to power and status.	In describing others, tend to respond to others' power and status, rather than to trustworthiness and warmth.
Are young relative to other participants.	Are old, relative to other participants.

With Pattern II even more than Pattern I, the change appears t be consistent not only with the person's basic interpersonal style preferences, but it is also consistent with observations by other participants in the laboratory. We interpret this finding as evidence of carryover from the laboratory training to organizationa behavior.

This report summarizes the trends of data in our study. We are currently engaged in further, more detailed investigations of the findings directed towards professional publication of the results. These later analyses are not expected to change substantially the conclusions reached in this report.

I. RESEARCH THEME[1]

---TO STUDY THE RELATIONSHIPS BETWEEN CERTAIN DISPOSITIONS PARTICIPANTS BRING TO THE LABORATORY TRAINING SITUATION AND:

A. THE KINDS OF PARTICIPATION PATTERNS THESE PARTICIPANTS DEMONSTRATE IN TRAINING

B. THE AMOUNT AND KIND OF LEARNING THESE PARTICIPANTS DERIVE FROM TRAINING

C. THE PARTICIPANTS' STYLES OF ORGANIZATIONAL BEHAVIOR, I.E., THE WAYS IN WHICH THEY DIAGNOSE AND ACT IN INTERPERSONAL WORK SITUATIONS.

The dispositions being studied are:[2]

Cognitive complexity --- the complexity of the intellectual equipment people have for organizing and making sense of the world around them. (Cognitive complexity is measured by the Hidden Figures Test and the Person Description Inventory VI)

Openness to Change in Belief System --- (Measured by Dogmatism Scale and Doodlebug Problem)

Interpersonal Orientation --- (Measured by Reactions to Group Situations Test and Self Description Q-Sort)

Participation patterns and learning will be measured by:

--- Trainer and member ratings during the laboratory
--- Diary entries
--- Group Discrimination Test

Styles of organizational behavior will be measured by:

--- OBDS, a measure of participants' interactions in staff and problem-solving meetings as described by superiors, subordinates, and peers.

--- ICCI, a measure of participants' interactions in staff and problem-solving meetings as described by trained research observers.

--- PAQ, a measure of participants' diagnostic approach to work problems.

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[1]The conceptual framework for this research is discussed in greater detail in Appendix A.

[2]Research Instruments are described in Appendix B.

II. RESEARCH DESIGN: INTEGRATION OF RESEARCH AND TRAINING

A. RESEARCH MODEL. The three lab populations will be the focus of three independent research studies -- each dealing with a different phase of "interpersonal competence in organizational behavior."

The overall research scheme for studying styles of organizational behavior is as follows:

LAB	PRIMARY RESEARCH INSTRUMENT	RESEARCH FOCUS
LAB I	OBDS -- ORGANIZATIONAL BEHAVIOR DESCRIBER SURVEY	What effects does lab training have on participants' interaction patterns during on-the-job staff and problem-solving meetings? (Participants' interactions during these meetings will be described in interviews before and after training by three co-workers--his superior, one subordinate, and one peer.)
LAB II	PAQ -- PROBLEM ANALYSIS QUESTIONNAIRE	What effects does lab training have on the ways in which participants diagnose interpersonal problems in their work situations?
LAB III	ICCI -- INTERPERSONAL COMPETENCE CODING INSTRUMENT	What effects does lab training have on participants' interaction patterns during on-the-job staff and problem-solving meetings. (Participant interaction during these meetings will be observed and coded by trained research assistants.)

B. DATA COLLECTION -- FEEDBACK -- TRAINING SEQUENCE. The design attempts to integrate research and training such that the data collected not only will (1) provide the researchers with new understanding of organizational behavior, but also, through systematic feedback prior to each lab, (2) provide the participants with new frameworks for exploring certain personal and group interaction variables related to organizational effectiveness. Thus, selected OBDS research findings will be fed back to Lab I participants one week prior to their training experience; while PAQ and ICCI data will be fed back to participants of Labs II and III respectively one week prior to their training experiences. The sequence for each lab will be:

APPENDIX A

Conceptual Framework for Research

A guiding conceptual framework in this study centers on the relationships among cognitive complexity, openness to change in belief systems and interpersonal orientation. The theory is as follows:

A first proposition is that people differ in the complexity of their intellectual equipment for organizing and making sense of the world around them. Some people, called more <u>abstract</u>, have quite complex perceptions of the world. They use many, rather than few, concepts to judge people and events, and they can make finer discriminations between people and events, using these concepts. Other people, who are considered more <u>concrete</u> in their response, tend to use fewer concepts and use them to make only rather gross, black-and-white discriminations. People who are more <u>abstract</u> are able to see more differences among people and events; they are more likely to be able to give a clear, coherent explanation of why things happen; they are more likely to be able to resolve apparent contradictions in people and events.

A second proposition relates the kinds of relationships a person tends to form to his abstractness or concreteness. Very concrete (Stage I) individuals do not clearly differentiate among people. Consequently, they rely largely upon rules and authority for guides to behavior. They become highly uncomfortable in the presence of contradictions, or when they cannot clearly see what is the appropriate, expected thing for them to do.

Less concrete (Stage II) people distinguish clearly between themselves and others, but have not yet learned to discriminate clearly the characteristics of others. They tend to reject rules and authority in favor of deciding things for themselves, but they remain relatively insensitive to differences among others. They may view attempts by others to establish close relations as attempts

to dominate and force them back to Stage I relationships. In short, they are jealous of their freedom to the point where they do not form close relationships.

With increasing abstractness, (Stage III), people are able to make finer discriminations among others. From differentiating only between the self and others, the person progresses to seeing differences among the others. It is only when he is able to be sensitive to others' motives, needs, and dispositions that close relationships based on mutual liking and understanding can flourish. Persons operating at this level or abstractness tend to be less concerned than those at lower levels about rules, authority, and independence; rather, their concerns center around questions of acceptance and rejection, closeness and distance, conformity and nonconformity to the wishes of others. Many of the characteristics associated with the "organization man" are Stage III concepts.

With further increasing cognitive complexity, people are seen as passing into a Stage IV level of development. Here, the interpersonal world becomes even more fully differentiated, and the individual is capable of the widest variety of relationships with others. At this level, the person can operate with minimal conflict with and without authority and direction, and also with and without close affectional relationships. This level is best described by Maslow's "self-actualizing" person, and in pure form is rarely achieved.

Openness to change in belief systems is related to cognitive complexity and interpersonal orientation in complex, not completely conceptualized ways. In general, persons operating at concrete cognitive levels are more resistant to integrating new beliefs and are more easily disturbed by new information. There is some reason to believe, however, that openness and closedness is a significant dimension at all levels of abstractness, and so it will be measured in this study as a separate variable.

Some evidence is available that openness to change is associated with transitional interpersonal orientations, especially between Stages II and III, and III and IV. A transitional orientation means that the person is in some conflict between two stages and exhibits characteristics of both. For example, a person in transition between Stages II and III might in turn exhibit both the desire for close personal relationships of Stage III and the distrust and fear of being controlled of Stage II.

The research strategy is to follow these notions of cognitive complexity, interpersonal orientation and openness to change through the training and into the participant's return to the organization. We will take measures of the dispositions which participants bring with them; measure the effects these dispositions have on the course of training; assess the value of training for participants with different dispositions; and investigate whether some kinds of initial dispositions themselves are subject to change during the training.

APPENDIX B: BRIEF DESCRIPTIONS OF RESEARCH INSTRUMENTS

RESEARCH INSTRUMENTS AND TIME REQUIREMENTS FOR ADMINISTRATION

	When Administered			Time
	Before	During	After	Needed
A. Measures of cognitive complexity				
Hidden Figures Test	X			20
Person Description Inventory VI	X		X	60
B. Measures of Interpersonal Orientation				
Reactions to Group Situations	X		X	45
Self Description Q-Sort	X		X	60
C. Measures of Organizational Behavior Change				
Problem Analysis Questionnaire (PAQ)	X		X	30
Organizational Behavior Description Survey (OBDS)	X		X[1]	50
Interpersonal Competence Coding Inventory (ICCI)	X		X[2]	--
D. Measures of Openness to Change in Belief Systems				
Dogmatism Scale	X			20
Doodlebug Problem	X			40
E. Measures of Member Participation Patterns				
Trainer Ratings		X		20
Member Ratings		X		20
Diary Entries		X[3]		20
Group Discrimination Test		X		45

Descriptions of the Instruments

Hidden Figures Test: a measure of the ability to find simple abstract designs which are embedded in more complex designs. Has been shown to be related to other evidences of cognitive complexity. (20 min.)

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[1]Not administered to participants, but to superiors, subordinates, and peers; administered individually, not in group.

[2]This does not involve extra participant time, since his behavior during regularly planned staff and problem-solving meetings is being observed and coded.

[3]Administered as part of the T-group; not scheduled separately.

Person Description Instrument (PDI) VI: a measure of a person's ability to make fine discriminations among persons on a wide variety of characteristics, giving an overall measure of sensitivity to differences among persons.

In addition, this test provides a measure of differential discrimination for each of several kinds of characteristics, giving a measure of relative sensitivity to differences in each area.

This test is used as a measure of cognitive complexity, and also of interpersonal orientation. It is used as a predictor and also as a measure of change resulting from training.

Reactions to Group Situations Test: a sentence completion measure in which the respondent completes stems which suggest various kinds of interpersonal interaction within the group. The stems are designed to elicit various kinds of interpersonal orientations, and the degree to which the respondent carries out each theme in his completion is scored as acceptance or rejection of that orientation. Has been successfully used as a measure of change in interpersonal orientation as a result of training. (45 min.)

Self Description Q-Sort: a set of 90 statements representing different ways of relating to others which the respondent sorts according to their applicability to him. Has been successfully used as a predictor of changes in self concept as a result of training. (40 min.)

Problem Analysis Questionnaire: asks the respondent to diagnose a variety of aspects of a job problem selected by himself. Gives a measure of cognitive complexity in the use of more abstract concepts to diagnose the problem. Also used as measure of change in complexity of diagnosis. (20 min.)

Organizational Behavior Description Study: a measure of behavior change in which individuals knowing the participant on his job describe examples of effective and ineffective managerial action. The OBDS is to be administered both before and after the training, with three respondents contributing incidents about each participant.

Interpersonal Competence Coding Inventory (ICCI): a scheme developed by Chris Argyris for coding group interaction. It deals with such elements as the degree to which participants accept and express their own ideas and feelings, the degree to which they are open to new ideas and feelings, and the degree to which they encourage or interfere with others' expressions of ideas and feelings.

Dogmatism Scale: a measure of the resistance to change of belief systems, using extreme (left and right) social and political attitudes as the content. The respondent agrees or disagrees with statements of these social and political attitudes. Has been a successful predictor of resistance to change of belief in learning situations. (20 min.)

Doodlebug Problem: the respondent must solve a logical problem which requires that he suspend commonly held beliefs about the physical world to obtain the solution. A measure of openness to change of belief systems. (40 min.)

Member and Trainer Ratings of Interpersonal Orientation: a measure of participation patterns and interpersonal orientation for each group member, based on the subjective ratings of his trainer and fellow group members. After the fifth and tenth T-group sessions, each member (and the trainer) makes judgments of other group members on such issues as orientation toward work, fight, flight, pairing, dependency, and counterdependency. (20 min.)

Diary: Following selected T-group session, the respondent is asked six open-ended questions focusing on: (a) his thoughts and feelings with regard to the session just past, and (b) his diagnosis of the current state of development of the group. The diary entries will be analyzed in terms of the level of abstraction which characterizes the diagnosis. A second diary feature focuses on the respondent's perception of the group's dominant interpersonal orientations -- i.e., fight, flight, dependency, counterdependency, pairing.

Group Discrimination Test: a measure of the ability of people to conceptualize group phenomena. This discrimination task requires the respondent to compare and contrast five T-group sessions on as many or as few dimensions as he feels are relevant. This test is administered after the fifth and tenth T-group sessions. (55 min.)

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